

## INTRODUCTION

Administration of water rights is accepted or resisted depending upon the position of a water user's land and his priority of rights.

There was very little administrative control exercised in the Escalante Valley prior to 1958. Need being the principal catalyst for control, it was only promulgated after the development of the valley had proceeded beyond the available water supply and the water table was receding differentially over most of the valley.

In 1958 after the culmination of much legal action over water rights, and the diversion requirements of the irrigators, active administrative control was instigated.

## VALLEY DEVELOPMENT

There was very little irrigation of lands in the Escalante Valley from the underground basin prior to 1927. However, from 1919 to 1927 there were some wells being pumped. In 1927 there were about 17 pumps in operation in the Beryl-Enterprise area. Development in this area remained dormant until about 1943 with between 17 and 25 wells being operated annually.

In the Milford area there was some development prior to 1938 at which time about 9,000 acre feet was being withdrawn from the underground annually from some 60 to 75 wells.

In the early forties development was greatly accelerated in both the Beryl-Enterprise and Milford areas of Escalante Valley.

Beginning in 1943 the era of large, deep pump wells began in Escalante Valley and the annual withdrawal was beginning to exceed all previous use. This development continued at a rapid rate until the valley was closed to further appropriation. The Beryl-Enterprise area was closed in 1946. The Milford area was

closed in 1951. All rights were not perfected until a short time after December 31, 1959.

### WATER SUPPLY

During the development of Escalante Valley, the use of surface water, which was paramount during the early years, has gradually been supplanted by irrigation from wells.

At the present time probably only 15% of the valley is irrigated from surface sources. The major streams contributing to the valley are Shoal Creek, Pinto Creek, Meadow Valley Creek, Beaver River, and a transmountain diversion from the Santa Clara River Drainage.

Some storage of surface water is made for use in the valley. There are two major reservoirs in the Beryl-Enterprise area and one in the Milford Area.

Enterprise Reservoirs are located on Pine Creek and have capacities of 5,290 ac.-ft. These reservoirs supply a partial water supply on approximately 1,200 acres.

Newcastle Reservoir is located near the mouth of Pinto Creek. Storage in this reservoir of 3,300 ac.-ft. capacity is supplied from the Grass Valley trans-drainage tunnel and the natural flow of Pinto Creek. The water from this storage project supplies water for about 1300 acres of land near New Castle.

Rocky Ford Reservoir is located on the Beaver River near Minersville, has a capacity of approximately 26,500 ac.-ft. The water from Rocky Ford Reservoir is used on about 8,000 acres of land in the Milford area.

The greater portion of Escalante Valley farmers depend on the underground water supply. The tremendous increase in irrigated acreage in recent years led to increased pumping over the entire area and a general decline in the water table.

The Escalante Valley is broken into two separate underground reservoirs the Beryl-Enterprise and Milford Basins.

The Beryl-Enterprise basin lies in the southern part of the valley. Development in this portion of Escalante Valley was slower than in the Milford end and it was

not until the early forties that the effects of the greater discharge began to have detrimental effects on the water table levels, although early investigators noted that water was being mined in local areas. The decline of the water table has continued through the years since this time to the present. Studies made by the U.S.G.S. indicate this trend is continuing on the same general trend in the heavier pumped areas.

The Milford basin lies in the northern portion of the valley. The principal recharge to this area is the Beaver River. However, a change in the pattern of diversion of the waters of Beaver River has materially decreased the recharge to the basin. The increased pumpage and the lack of natural recharge has contributed to the general decline of water levels over the basin particularly in the zones of heavy pumping. The water table in this started to decline differentially in about 1935 and has continued to the present.

#### WATER RIGHTS

The rights to the use of the waters of the Escalante Valley have been established by use and by application. Early surface rights have priorities of 1859 with the application ranging from 1903 to the present. Some well <sup>are</sup> rights covered by underground water claims extending from about 1916 to the present.

Filing of applications and the resulting increased developments brought conflicts between the water users and the lowering of the water table was cause of general concern. The decline of the water table brought the burden to the irrigators of higher pump lifts and replacing of old small wells to obtain the water to fill their rights.

In 1940 a petition was filed for an adjudication of the water rights in the Escalante Valley. The state engineer made hydrographic and topographic surveys of the area between 1940 and 1942. All development and the water rights were defined between 1942 and 1949 with the exception of imperfect applications. The determination of water rights was filed in the court in 1949.

With the filing of the determination in 1949, all old water rights were

described. However, there were better than 140 pending applications in Escalante Valley not yet perfected and these could not be fully defined in the determination of rights. Due to lack of a distribution program and co-operation on the part of the water users, the continuity of water rights was lost. It was necessary to analyze the rights as set up in the determination of 1949, to determine the rights that were pending at that time, and to correlate the water rights with the present irrigated acreage. This was begun in 1957 and was completed for irrigation rights by 1959. During the period from 1957 through 1959 many protests of water rights were carried to the courts and court decisions clarified the issues involved. With the continued decline of the water table in Beryl-Enterprise, it became necessary for the state engineer in 1946 to recommend to the governor to issue a proclamation to stop further appropriation until such time as a study of the general conditions could be completed. This proclamation covered the south-end of Escalante Valley and some fringe areas where bonafide development could go ahead without materially affecting the rest of the area. For this reason the Pinto Creek area and extreme southeast portion of the valley was restored to appropriation in 1953.

In the Milford Valley with the change in pattern of irrigation from Beaver River and the general decline of the water table being of slower rate and the deeper pump wells not being put into full production until later, it was not until 1951 that the state engineer through the administrative function of his office closed the Milford Area to appropriation. In 1959 there were still many pending applications throughout the valley and the state engineer issued a directive that all rights must be perfected by December 31, 1959, (see Appendix I), so the extent of their use could be fully defined in the determination of water rights then being brought up to date.

#### BASIS FOR WATER ALLOWANCE

In the administration of Escalante Valley, there was perhaps no single phase that garnered more speculation or resulted in more resistance from the water users than the establishment of an equitable duty of water. Litigation extended on this



issue from December 1957 through March of 1961. During this period the court issued an interlocutory order and 5 amendments to this order. From the original order through the amendatory orders, the duty of water was varied according to the experience gained through active distribution. In addition, this issue was brought before the supreme court who upheld the district court's right to set the duty to an equitable and just figure.

December 13, 1957 an order was issued by the Fifth Judicial District Court. This order set forth 3 main provisions to be followed by the state engineer and the water users. The order of the court in part is included below:

"ORDERED, ADJUDGED AND DECREED that a prior appropriator does not have an unlimited right to the use of water, but is subject to a reasonable limitation of his right for the benefit of junior appropriators. That it is necessary and proper to limit prior appropriators to the volume of water reasonably required to raise crops under reasonably efficient methods of applying water to the land. That beneficial use is the basis and the measure and the limit of the right to the use of water and water used in excess of the amount reasonably necessary to produce crops is not beneficially used.

IT IS FURTHER ORDERED, ADJUDGED AND DECREED that users of water in said Escalante Valley Drainage Area shall henceforth be limited to three acre feet of water per acre per annum, measured at the field headgate, and that suitable measuring and recording devices to be approved by the state engineer shall be installed by water users upon all wells and other diversions, such installations to be completed by March 15, 1958 and prior to the use of water from such wells and other diversions."

This order was amended February 13, 1958 permitting maximum use of 4 acre feet per acre and charging the fourth acre foot or any part thereof against the amount

allowed for the following year. However on July 3, 1958 this order was again amended and the limit extended to 4 acre feet per acre of land cropped and irrigated in 1958. Provision was also made that any use in excess of four acre-feet per acre would be deducted from water allotted for 1959.

March 5, 1959, the Fifth District Court entered the third amendment to the interlocutory decree. The court in this order~~d~~

1. "That during the irrigating season of 1959 the use of water from the underground basin involved herein shall be limited to four ac.-ft. of water per acre of lands awarded a water right under the Proposed Determination herein.

2. That users who used in excess of four ac.-ft. during the year 1958 shall have charged against them the amount of such excess and at least one-fifth of the amount of such excess shall be deducted from amounts to be received in each year beginning with 1959 until the excess use has been compensated for.

3. That in case of extraordinary hardship to any individual water user, caused by aforesaid limitations, the water commissioner after written application in form approved by the state engineer, may permit use of additional water during the 1959 season but such additional amount shall be charged against and deducted from the amount allowed such user in 1960. This order was later modified by a supreme court decision entered in January 1960."

June 2, 1960 the Fifth District Court issued the fourth amendment which fixed the duty of water for 1960 at four ac.-ft. of water per acre of land decreed a water right. It further provided that a water user in order to save his crops could use one-half acre foot per acre of land in excess, providing the user made written application therefor and executed an agreement binding him and successors in interest to decrease the withdrawal otherwise

allowable under his water right during each of the three following years to one-third of the excess used in 1960.

In 1961 the court issued a fifth amendatory order fixing the duty of water in the Escalante Valley at four ac.-ft. of water per acre of land, awarded a water right in the Escalante Valley Determination of water rights.

#### DISTRIBUTION

Upon receipt of the court order of December 13, 1957 the state engineer notified each water user of the requirements of the order and the policies and procedure that it was necessary to follow. (See Appendix II).

Many meetings were held with the water users of the Escalante Valley in both Enterprise and Milford, at which meetings, administrative policies, budget problems and a research program were developed. A water users' committee was selected representing all water users to expedite future activity.

The well owners were ordered by the state engineer of the court's order and advised that it would be necessary to install suitable measuring devices before water could be delivered. (See Appendix III.) These devices, spurling or measurerite meters were installed by the water users on all wells that were to be used prior to diversion of water.

March \_\_\_\_\_, organization meetings were held with the water users to establish an operational budget, set-up the commissioner's duty, and handle any other business necessary at that time. The finding of a competent engineer to serve as commissioner proved to be impractical and the state engineer dispatched one of his staff to open a Cedar City District office and to serve as commissioner.

Active distribution began in March of 1958. A record of all water use was made. All diversions were regularly checked and the water users were kept informed of their water balance. Records gathered during the early part of 1958 indicated the lack of ability of the irrigators to adjust to the limitation of 3 ac.-ft. per acre. Considering the recommendation of the state engineer and the need of the water users, the court adjusted the water allowance to four ac.-ft. with

provision for additional water if necessary. To fully comply with the court's order, the state engineer made a survey of all cropped land in 1958. A report of the 1958 distribution activities was presented to the court in early 1959. During the subsequent court hearing all facts gathered in 1958 were presented to the court. Of particular value to all concerned was water use and cropped land.

Table I summarizes the information gathered in 1958.

Table I. Pumped and supplemental surface water deliveries, Escalante Valley

1958		Total	Surface	Total	Total	
Area	Wells pumped	pump-age	water diverted	diversions	area irrigated	Diversions
	No.	Ac.-ft.	Ac.-ft.	Ac.-ft.	Acres	A.F./Ac.
Milford	136	36,595	1,492	38,087	9,866	3.86
Beryl-Enterprise	176	51,007	2,089	53,096	15,810	3.36

Surface water was used as a sole supply on some lands. A summary of the amount of water used and the acreage irrigated with surface water is shown in Table 4.

Table 2. Surface water deliveries, Escalante Valley

1958 Source	Water Used	Area Irrigated	Diversion
	Ac.-ft.	Acres	A.F./Ac.
Enterprise Reservoir and Canal Co.	4,346	1,199	3.62
Newcastle Reservoir Company	4,633	1,278	3.63
Pinto Creek	1,299	262	4.96
Meadow Valley Creek	500	150	3.33

About 800 acres of additional land, not shown in Table 2, are irrigated with surface water whenever it is available. Because of the lack of controls and records, no accurate determination of the annual water use can be obtained. However, in most years there is little, if any available.



Tables 3 and 4 present summaries of pumped and surface water deliveries in 1959 and 1960.

Table 3 pumped water deliveries in 1959 and 1960

Year	Area	Wells Pumped	Decreed Water Right	Water Deliveries
		<u>No.</u>	<u>Acres</u>	<u>Ac.-ft.</u>
1959	Beryl-Enterprise	189	23,374	59,291
1959	Milford	136	12,621	40,564
1960	Beryl-Enterprise	184	23,959	68,292
	Milford	141	12,686	46,063

Table 4 summarizes surface water deliveries for 1959 and 1960

Reservoir or Creek	Water Deliveries	
	1959	1960
	<u>Ac.-ft.</u>	<u>Ac.-ft.</u>
Enterprise Reservoir	4,095	2,444
New Castle Reservoir	612	1,004
Pinto Creek	1,219	1,360
Meadow Valley Creek	584	507

Date showing details of pumpage and surface water deliveries is on file in the Utah State Engineer's Office and is available on request.

In the spring of 1959, 1960, and 1961, an annual water users' meeting was held with the Escalante Valley water users. At each meeting the previous years' activities and problems were discussed and a program instituted to carry out the courts order of that year. Water distribution in these years differed from 1958 in that water was allocated on a decreed acreage basis and not on cropped and irrigated acreage. At the close of each year a report was filed with the court. This report covered all aspects of the year's distribution. Experience gained in 1958 and 1959 whereby the Escalante Valley

was handled as a single administrative unit, pointed the need for a diversion into two separate distribution systems. In 1960 the Beryl-Enterprise and Milford Distribution systems were established. Two commissioners were appointed; one to handle the Beryl-Enterprise area, the other to handle the Milford area with both under general supervision of the district engineer in Cedar City. They each prepare and submit two separate reports of their activities.

### FINANCES

The water code provides that the cost of water distribution be born by the water users on a pro rata basis. However, many administrative problems in the Escalante Valley during 1958 and 1959 could only be solved by a trained engineer who could devote his full time to gathering information, not consisting solely of reading well meters and checking devices. The state engineer recognizing the situation met with the water users and established a budget whereby they could handle the cost of the actual distribution. The cost studies necessary to administer the waters of Escalante Valley could be assimilated by his office. Distribution costs are raised each year by water assessments. The assessments are prepared on a pro rata ac.-ft. basis in accordance with the operational budget established each year at the annual water users meeting. The assessment and operational costs for one year's operation in Escalante Valley requires much time, effort, and policing by the state engineer and 225 accounts have to be handled annually.

The annual cost to the water user is approximately 5¢ per acre foot with the annual budget running near \$4,000.

### WATER USE

Prior to 1958 when the state engineer took over active distribution of Escalante Valley, there was little record kept of the actual use from the underground or from surface sources. It has been estimated by early investigators in the valley that there was some pumping going on in 1919, and most surface supplies were fully utilized much earlier. Since 1958, the number of wells pumped for irrigation fluctuated from

about 312 to about 325. Of the wells pumped in the valley about 58% are in the Beryl-Enterprise area with 42% being in the Milford area. There are approximately 13,000 acres of decreed water rights in the Milford area and approximately 23,300 in the Beryl-Enterprise area. In addition to water rights from wells, there are lands in the Beryl-Enterprise area in the valley which receive all or partial water rights from surface water on fringes of the valley. Since the pattern of distribution from the Beaver River changed in the late thirties, wells have become the main source of irrigation water. Water formerly diverted on this land is now used on the land in the extreme north portion of the valley. The court's limitation on the quantity of water caused great concern among the water users. However, after four years of control, the users have adopted and increased the efficiency of their farm operation and are now living with and benefiting from this concept of water allocation.

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